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## CLAIMS

1. A method for prophylaxis or treatment of a cancer in a mammal, the method comprising treating the mammal with an effective amount of an agent that binds to a MAP kinase such that binding of the MAP kinase to an integrin is inhibited, wherein the integrin is essentially not expressed by cancer cells of the cancer.
2. A method according to claim 1 wherein the binding of the agent to the MAP kinase renders the MAP kinase substantially incapable of binding to the integrin.
3. A method according to claim 1 or 2 wherein the agent binds to a binding domain of the MAP kinase for the integrin.
4. A method according to any one of claims 1 to 3 wherein the agent incorporates a facilitator moiety that facilitates passage of the agent across the outer cell membrane of the cancer cells.
5. A method according to claim 4 wherein the facilitator moiety is a signal peptide.
6. A method according to claim 5 wherein the signal peptide is a signal peptide for a growth factor, or a modified form of the signal peptide.
7. A method according to claim 6 wherein the signal peptide comprises the amino acid sequence AAVALLPAVLLALLA (SEQ ID No: 1), or a homologue, analogue, variant or derivative thereof.
8. A method according to claim 7 wherein the signal peptide comprises the amino acid sequence AAVALLPAVLLALLAP (SEQ ID No: 3).
9. A method according to any one of claims 1 to 8 wherein the agent comprises a polypeptide, or a derivative or analogue thereof with binding specificity of the polypeptide.
10. A method according to claim 9 wherein the polypeptide comprises a fragment of the integrin.
11. A method according to claim 10 wherein the integrin is a member of the  $\alpha v$  integrin subfamily.

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12. A method according to claim 9 wherein the polypeptide comprises a polypeptide selected from the group consisting of RSKAKWQTGTNPLYR (SEQ ID No: 4),  
RARAKWDTANNPLYK (SEQ ID No: 5), RSRARYEMASNPLYR (SEQ ID No: 6),  
RSKAKNPLYR (SEQ ID No: 7), RARAKNPLYK (SEQ ID No: 8), RSRARNPLYR (SEQ ID  
5 No: 9), KEKLKSQWNNDNPLFK (SEQ ID No: 11) and KEKLKNPLFK (SEQ ID No: 10), and  
variants and homologues thereof.
13. A method according to any one of claims 1 to 9 wherein the integrin comprises an integrin subunit selected from the group consisting of  $\beta 2$ ,  $\beta 3$ ,  $\beta 5$  and  $\beta 6$ .
14. A method according to claim 13 wherein the integrin comprises  $\beta 6$ .
- 10 15. A method according to any one of claims 1 to 14 wherein the MAP kinase is selected from the group consisting of extracellular signal-regulated kinases (ERKs), JNK MAP kinases, and p38 MAP kinases.
16. A method according to claim 15 wherein the MAP kinase is ERK1, ERK2 or JNK-1.
17. A method according to claim 16 wherein the MAP kinase is ERK2.
- 15 18. A method according to any one of claims 1 to 17 wherein the cancer is selected from the group consisting of epithelial cell cancers, prostate cancer, lymphomas, blood cell cancers, leukemias, and colon cancer.
19. A method for prophylaxis or treatment of a circulating blood cell cancer in a mammal, the method comprising treating the mammal with an effective amount of an agent that binds to  
20 a MAP kinase or integrin such that binding of the MAP kinase to the integrin is inhibited.
20. A method according to claim 19 wherein the integrin is essentially not expressed by cancer cells of the cancer.
21. A method according to claim 19 wherein the integrin is expressed by cancer cells of the cancer and the agent binds to a cytoplasmic region of the integrin.
- 25 22. A method according to claim 21 wherein the agent binds to a binding domain of the integrin for the MAP kinase.
23. A method according to claim 19 or 20 wherein the agent binds to the MAP kinase.

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24. A method according to claim 23 wherein the binding of the agent to the MAP kinase renders the MAP kinase substantially incapable of binding to the integrin.
25. A method according to claim 23 or 24 wherein the agent binds to a binding domain of the MAP kinase for the integrin.
- 5 26. A method according to claim 19 or 20 wherein the agent incorporates a facilitator moiety that facilitates passage of the agent across the outer cell membrane of the cancer cells.
27. A method according to claims 26 wherein the facilitator moiety is a signal peptide.
28. A method according to claim 26 or 27 wherein the signal peptide is a signal peptide for a growth factor, or a modified form of the signal peptide.
- 10 29. A method according to claim 28 the signal peptide comprises the amino acid sequence AAVALLPAVLLALLA (SEQ ID No: 1), or a homologue, analogue, variant or derivative thereof.
30. A method according to claim 29 wherein the signal peptide comprises the amino acid sequence AAVALLPAVALLALLAP (SEQ ID No: 3).
- 15 31. A method according to any one of claims 19 to 30 wherein the agent comprises a polypeptide, or a derivative or analogue thereof with binding specificity of the polypeptide.
32. A method according to claim 31 wherein the polypeptide comprises a fragment of the integrin.
- 20 33. A method according to claim 32 wherein the integrin is a member of the  $\alpha$ v integrin subfamily.
34. A method according to claim 31 wherein the polypeptide comprises a polypeptide selected from the group consisting of RSKAKWQTGTNPLYR (SEQ ID No: 4), RARAKWDTANNPLYK (SEQ ID No: 5), RSRARYEMASNPLYR (SEQ ID No: 6),  
25 RSKAKNPLYR (SEQ ID No: 7), RARAKNPLYK (SEQ ID No: 8), RSRARNPLYR (SEQ ID No: 9), KEKLKSQWNNDNPLFK (SEQ ID No: 11) and KEKLKNPLFK (SEQ ID No: 10), and variants and homologues thereof.
35. A method according to any one of claims 19 to 32 wherein the integrin comprises an integrin subunit selected from the group consisting of  $\beta$ 2,  $\beta$ 3,  $\beta$ 5 and  $\beta$ 6.

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36. A method according to claim 35 wherein the integrin comprises  $\beta 2$ .
37. A method according to any one of claims 19 to 36 wherein the MAP kinase is selected from the group consisting of an extracellular signal-regulated kinases (ERKs), JNK MAP kinases, and p38 MAP kinases.
- 5 38. A method according to claim 37 wherein the MAP kinase is ERK1, ERK2 or JNK-1.
39. A method according to claim 38 wherein the MAP kinase is ERK2.
40. A method according to any one of claims 19 to 39 wherein the circulating blood cell cancer is selected from the group consisting of leukemias, myeloid leukemias, eosinophilic leukemias and granulocytic leukemias.
- 10 41. A method for prophylaxis or treatment of a cancer in a mammal, the method comprising administering to the mammal an effective amount of an agent incorporating a binding moiety which binds to a MAP kinase or an integrin such that binding of the MAP kinase to the integrin is inhibited, and a signal peptide having the amino acid sequence AAVALLPAVLLALLA (SEQ ID No: 1) for facilitating passage of the binding moiety into  
15 cancer cells of the cancer, or a homologue, analogue, variant or derivative of the signal peptide, which facilitates the passage of the binding moiety into the cancer cells.
42. A method according to claim 41 wherein the integrin is essentially not expressed by the cancer cells.
43. A method according to claim 41 wherein the integrin is expressed by cancer cells of the  
20 cancer and the agent binds to a cytoplasmic region of the integrin.
44. A method according to claim 43 wherein the agent binds to a binding domain of the integrin for the MAP kinase.
45. A method according to claim 41 or 42 wherein the agent binds to the MAP kinase.
46. A method according to claim 45 wherein the binding of the agent to the MAP kinase  
25 renders the MAP kinase substantially incapable of binding to the integrin.
47. A method according to claim 45 or 46 wherein the agent binds to a binding domain of the MAP kinase for the integrin.

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48. A method according to any one of claims 41 to 47 wherein the signal peptide comprises the amino acid sequence AAVALLPAVLLALLAP (SEQ ID No: 3).
49. A method according to claim 41, 42 or any one or claims 45 to 47 wherein the binding moiety comprises a polypeptide, or a derivative or analogue thereof with binding specificity of the polypeptide.
50. A method according to claim 49 wherein the polypeptide comprises a fragment of the integrin.
51. A method according to claim 50 wherein the integrin is a member of the  $\alpha_v$  integrin subfamily.
52. A method according to claim 49 wherein the polypeptide comprises a polypeptide selected from the group consisting of RSKAKWQTGTNPLYR (SEQ ID No: 4), RARAKWDTANNPLYK (SEQ ID No: 5), RSRARYEMASNPLYR (SEQ ID No: 6), RSKAKNPLYR (SEQ ID No: 7), RARAKNPLYK (SEQ ID No: 8), RSRARNPLYR (SEQ ID No: 9), KEKLKSQWNNDNPLFK (SEQ ID No: 11) and KEKLKNPLFK (SEQ ID No: 10), and variants and homologues thereof.
53. A method according to any one of claims 41 to 50 wherein the integrin comprises an integrin subunit selected from the group consisting of  $\beta_2$ ,  $\beta_3$ ,  $\beta_5$  and  $\beta_6$ .
54. A method according to claim 53 wherein the integrin comprises  $\beta_2$  or  $\beta_6$ .
55. A method according to any one of claims 41 to 54 wherein the MAP kinase is selected from the group consisting of an extracellular signal-regulated kinases (ERKs), JNK MAP kinases, and p38 MAP kinases.
56. A method for prophylaxis or treatment of cancer in a mammal, the method comprising subcutaneously administering to the mammal an effective amount of an agent for contact with cancer cells of the cancer at a site remote from the site of administration of the agent, wherein the agent binds to a MAP kinase or an integrin such that binding of the MAP kinase to the integrin is inhibited.
57. A method according to claim 56 wherein the integrin is essentially not expressed by the cancer cells.

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58. A method according to claim 56 wherein the integrin is expressed by cancer cells of the cancer and the agent binds to a cytoplasmic region of the integrin.
59. A method according to claim 58 wherein the agent binds to a binding domain of the integrin for the MAP kinase.
- 5 60. A method according to claim 56 or 57 wherein the agent binds to the MAP kinase.
61. A method according to claim 60 wherein the binding of the agent to the MAP kinase renders the MAP kinase substantially incapable of binding to the integrin.
62. A method according to claim 60 or 61 wherein the agent binds to a binding domain of the MAP kinase for the integrin.
- 10 63. A method according to claim 62 wherein the agent incorporates a facilitator molecule for facilitating passage of the agent across the outer cell membrane of the cancer cells.
64. A method according to claim 56, 57 or any one of claim 60 to 63 wherein the agent comprises a polypeptide, or a derivative or analogue thereof with binding specificity of the polypeptide.
- 15 65. A method according to claim 64 wherein the polypeptide comprises a fragment of the integrin.
66. A method according to claim 65 wherein the integrin is a member of the  $\alpha_v$  integrin subfamily.
- 20 67. A method according to claim 64 wherein the polypeptide comprises a polypeptide selected from the group consisting of RSKAKWQTGTNPLYR (SEQ ID No: 4), RARAKWDTANNPLYK (SEQ ID No: 5), RSRARYEMASNPLYR (SEQ ID No: 6), RSKAKNPLYR (SEQ ID No: 7), RARAKNPLYK (SEQ ID No: 8), RSRARNPLYR (SEQ ID No: 9), KEKLKSQWNNDNPLFK (SEQ ID No: 11) and KEKLKNPLFK (SEQ ID No: 10), and variants and homologues thereof.
- 25 68. A method according to any one of claims 56 to 67 wherein the integrin comprises an integrin subunit selected from the group consisting of  $\beta_2$ ,  $\beta_3$ ,  $\beta_5$  and  $\beta_6$ .
69. A method according to any one claims 56 to 68 wherein the MAP kinase is selected from the group consisting of an extracellular signal-regulated kinases (ERKs), JNK MAP kinases, and p38 MAP kinases.

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70. An agent for prophylaxis or treatment of a cancer in a mammal, the agent comprising a binding moiety which binds to a MAP kinase or an integrin such that binding of the MAP kinase to the integrin is inhibited, and a signal peptide having the amino acid sequence AAVALLPAVLLALLA (SEQ ID No: 1) for facilitating passage of the binding moiety into cancer cells of the cancer, or a homologue, analogue, variant or derivative of the signal peptide.
71. An agent according to claim 70 wherein the integrin is essentially not expressed by the cancer cells.
72. An agent according to claim 70 wherein the integrin is expressed by the cancer cells of the cancer and the agent binds to a cytoplasmic region of the integrin.
73. An agent according to claim 72 wherein the agent binds to a binding domain of the integrin for the MAP kinase.
74. An agent according to claim 70 or 71 wherein the agent binds to the MAP kinase.
75. An agent according to claim 74 wherein the binding of the agent to the MAP kinase renders the MAP kinase substantially incapable of binding to the integrin.
76. An agent according to claim 74 or 75 wherein the agent binds to a binding domain of the MAP kinase for the integrin.
77. An agent according to any one of claims 70 to 76 wherein the signal peptide comprises the amino acid sequence AAVALLPAVLLALLAP (SEQ ID No: 3).
78. An agent according to any one of claims 70 to 77 wherein the binding moiety comprises a polypeptide, or a derivative or analogue thereof with binding specificity of the polypeptide.
79. An agent according to claim 78 wherein the polypeptide comprises a fragment of the integrin.
80. An agent according to claim 79 wherein the integrin is a member of the  $\alpha v$  integrin subfamily.
81. An agent according to claim 78 wherein the polypeptide comprises a polypeptide selected from the group consisting of RSKAKWQTGTNPLYR (SEQ ID No: 4), RARAKWDTANNPLYK (SEQ ID No: 5), RSRARYEMASNPLYR (SEQ ID No: 6),

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RSKAKNPLYR (SEQ ID No: 7), RARAKNPLYK (SEQ ID No: 8), RSRARNPLYR (SEQ ID No: 9), KEKLKSQWNNDNPLFK (SEQ ID No: 11) and KEKLKNPLFK (SEQ ID No: 10), and variants and homologues thereof.

82. An agent according to any one of claims 70 to 79 wherein the integrin comprises an integrin subunit selected from the group consisting of  $\beta 2$ ,  $\beta 3$ ,  $\beta 5$  and  $\beta 6$ .
83. An agent according to claim 82 wherein the integrin comprises  $\beta 2$  or  $\beta 6$ .
84. An agent according to any one of claims 67 to 83 wherein the MAP kinase is selected from the group consisting of an extracellular signal-regulated kinases (ERKs), JNK MAP kinases, and p38 MAP kinases.
- D 85. A pharmaceutical composition comprising an agent as defined in any one of claims 70 to 84 together with a pharmaceutically acceptable carrier.